

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A process for continuously hydrocyanating 1,3-butadiene in the presence of at least one catalyst, ~~which comprises using, as catalysts,~~ the process comprising contacting the 1,3-butadiene with nickel(0) catalysts stabilized with phosphorus chelate ligands, ~~1,3-butadiene and in the presence of~~ hydrogen cyanide in a molar ratio of the 1,3 butadiene to the hydrogen cyanide from 1.6:1 to 1.1:1.

2. (Original) The process according to claim 1, wherein the nickel(0) catalyst is saturated with phosphorus chelate ligands, the phosphorus chelate ligands being selected from the group consisting of bidentate phosphites, phosphines, phosphonites, phosphinites and phosphinite phosphites.

3. (Currently amended) The process according to claim 1 ~~or 2~~, wherein the continuous hydrocyanation is ~~additionally carried out~~ conducted in the presence of at least one Lewis acid.

4. (Currently amended) The process according to ~~any of claims 1 to 3, characterized by the following process steps:~~

~~(a) continuously hydrocyanating 1,3-butadiene in the presence of at least one nickel(0) catalyst having chelate ligands and, if appropriate, in the presence of at least one Lewis acid, 1,3-butadiene and hydrogen cyanide being used in a molar ratio of from 1.6:1 to 1.1:1 to obtain a mixture 1 which comprises~~ claim 1, wherein 3-pentenitrile and 2-methyl-3-butenitrile are produced in the process to form a mixture 1; and

~~[[c)] continuously isomerizing the 2-methyl-3-butenitrile which is present in the mixture 1 over at least one dissolved or dispersed isomerization catalyst to give 3-pentenitrile, resulting in a mixture 2.~~

5. (Currently amended) The process according to claim 4, wherein the 3-pentenitrile ~~obtained in process step (e) of the mixture 2~~ is hydrocyanated in the presence of at least one nickel(0) catalyst having phosphorus ligands.

6. (Currently amended) The process according to claim 4 ~~or 5~~, wherein the isomerization ~~in process step (c) is effected by heating the mixture 1 to~~ of the 2-methyl-3-butenitrile is conducted at a temperature from 80 to 125°C.

7. (Currently amended) The process according to ~~any of claims 4 to 6~~ claim 5, wherein the continuous isomerization ~~carried out in process step (c) is carried out~~ is conducted in the presence of at least one Lewis acid.

8. (Currently amended) The process according to ~~any of claims 4 to 7, wherein, between process step (a) and process step (c), the following process step (b) is run through:~~

~~(b) — distillatively removing 1,3-butadiene from the mixture 1~~ claim 4, further comprising distilling mixture 1 to remove 1,3-butadiene prior to the isomerizing of 2-methyl-3-butenitrile.

9. (Currently amended) The process according to ~~any of claims 4 to 8~~ claim 4, wherein the isomerization catalyst ~~used in process step (c)~~ is the nickel(0) catalyst having chelate ligands used in ~~process step (a)~~ the hydrocyanation.

10. (Currently amended) The process according to ~~claims 1 to 9~~ claim 1, wherein the hydrocyanation is ~~carried out~~ conducted in the presence of additional monodentate phosphorus ligands selected from the group consisting of phosphines, phosphites, phosphinites and phosphonites.

11. (Original) The process according to claim 10, wherein the additional monodentate phosphorus ligand used is a ligand of the formula II



in which

X^1 , X^2 , X^3 are each independently oxygen or a single bond and R^1 , R^2 , R^3 are each independently identical or different organic radicals, or mixtures thereof.

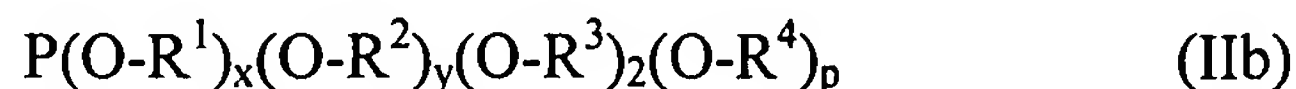
12. (Currently amended) The process according to ~~claims 10 and 11~~ claim 10, wherein ~~compounds~~ the monodentate phosphorus ligand is of the formula IIa



~~are used~~, where w, x, y, z are each a natural number and the following conditions apply:

$$w + x + y + z = 3 \text{ and } w, z \geq 2.$$

13. (Currently amended) The process according to ~~claims 10 to 12~~ claim 10, wherein the additional monodentate phosphorus ligand of the nickel(0) complex and/or the additional monodentate free phosphorus ligand is selected from tritolyl phosphite and the phosphites of the formula IIb



where R^1 , R^2 and R^3 are each independently o-isopropylphenyl, m-tolyl and p-tolyl, R^4 is phenyl, x is 1 or 2 and y, z, p are each independently 0, 1 or 2, with the proviso that $x + y + z + p = 3$, and mixtures thereof.

14. (New) The process according to claim 6, wherein the continuous isomerization is conducted in the presence of at least one Lewis acid.

15. (New) The process according to claim 7, further comprising distilling mixture 1 to remove 1,3-butadiene prior to the isomerizing of 2-methyl-3-butenitrile.

16. (New) The process according to claim 7, wherein the hydrocyanation is conducted in the presence of a monodentate phosphorus ligand of the formula IIa



where w, x, y, z are each a natural number and the following conditions apply:

$$w + x + y + z = 3 \text{ and } w, z \geq 2.$$